Ft. Collins, Colorado

LIMS Version: 6.761

Page 1 of 1

Tuesday, May 19, 2015

Bob Evans CH2M HILL Plateau Remediation Company 2420 Stevens Center Richland, WA 99352

Re: ALS Workorder: 1505122

Project Name: 200W Pump & Treat - Treatment Plant Water Sampling

Project Number: F15-005

Dear Mr. Evans:

Five water samples were received from CH2M HILL Plateau Remediation Company, on 5/7/2015. The samples were scheduled for the following analysis:

Metals

The results for these analyses are contained in the enclosed reports.

In 592

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

AL& Environmental Julie Ellingson **Project Manager**

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environme	ental – Fort Collins
Accreditation Body	License or Certification Number
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

ALS1505122 ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1505122

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: 200W Pump & Treat - Treatment Plant Water Sampling

Client Project Number: F15-005 Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B31BY0	1505122-1		WATER	06-May-15	10:50
B31BY6	1505122-2		WATER	06-May-15	8:35
B31C01	1505122-3		WATER	06-May-15	8:35
B31C06	1505122-4		WATER	06-May-15	9:55
B31C15	1505122-5		WATER	06-May-15	9:25

COMPANY CONTACT TELEPHONE NO. LING LOCATION TING LOCATION TOWN Pump & Treat - Treatment Plant Water Sampling FIELD LOGGBOOK NO. FIELD L	FRICE CODE 7C EVANS, RT SAF NO. FIS-005 LE DEPTH COA HETHOD OF SHIPMENT 303700 BILL OF LADING/AIR BILL NO. FEDERAL EXPRESS BILL OF LADING/AIR BILL NO. SALENCE SALEN	7C TURNAROUND 15 Days / 15 Days IPMENT SS ORIGINAL
Ive V12-Y30 PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling FIELD LOGBOOK NO. FIE	COA 303700 BILL OF LADING/AIR BILL NO.	<u>~</u>
FIELD LOGGBOOK NO. Sental FL. Collins OSSIBLE SAMPLE HAZARDS/ REMARKS Concentrations that are not be regulated for ransportation per 49 CFV/IATA Dangerous Soods Regulations but are not releasable per TYPE OF CONTAINER GIP ACTUAL SAMPLE DEPTH ACTUAL SAMPLE DEPTH FIELD LOGBOOK NO. HING3 to pH ACTUAL SAMPLE DEPTH FIELD LOGBOOK NO. HING3 to pH ACTUAL SAMPLE DEPTH	BILL OF LADING/AIR BILL NO	7
POSSIBLE SAMPLE HAZARDS/ REMARKS POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. TYPE OF CONTAINER OFFSITE PROPERTY NO. HINO3 to pH A2 Concentration per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	(0)	3381
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WI=Wipe SPECIAL HANDLING AND/OR STORAGE SAMPLE ANALYSIS IN SPECIAL INSTRUCTIONS N/A		
SAMPLE NO. MATRIX* SAMPLE DATE SAMPLE TIME		
B31BY0 WATER MAY 0 6 2015 1050		

SPECIAL INSTRUCTIONS	AMAY 0 6 2015 Analysis GKI applies to this SAF. TRVL-15-077	Copper, Molybdenum, Selenium); 6020_METALS_ICPMS: COMMON	9	DATE/TEME 6010_METALS_ICP: COMMON (Add-on) {Boron};	DATE/TIME	рате/тие ТЕМЕ 15- U77	DATE/TIME	TITLE DATE/TIME	DISPOSED BY DATE/TIME
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PRINTED ON 4/29/2015

A-6003-618 (REV 2)

CH2	2MHill Plateat	CH2MHill Plateau Remediation Company		CHAIN O	OF CUSTODY/SAMPLE ANALYSIS REQUEST	REQUEST	F15-005-162	PAGE 1 OF 1	
COLLECTOR	1	Breon	COMPANY CONTACT SUMNER, LC	TACT	TELEPHONE NO. 376-3922	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA	
SAMPLING LOCATION 289-T, Effluent Tank, 'Va	LOCATION ent Tank, Valve	SAMPLING LOCATION 289-T, Effluent Tank, Valve V07-Y80D — DUP	PROJECT DESIGNATION 200W Pump & Treat - Treatment	trnent	Plant Water Sampling	SAF NO. F15-005	AIR QUALITY	15 Days / 15 Days	10
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SHIPPED TO ALS Environ	HIPPED TO ALS Environmental Ft. Collins	ollins	OFFSITE PROPERTY NO.	RTY NO.	Ţ	BILL OF LADING AIR BILL NO	1863381		J, Z
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DL=Drum Liquids DS=Drum	concentration	concentrations that are not be regulated for transportation per 49 CFR/JATA Dangerous	HOLDING TIME	IG TIME	6 Months				
Solids L=Uquid O=Oil	Goods Regulations DOE Order 458.1.	Goods Regulations but are not releasable per DOE Order 458.1.	TYPE OF CONTAINER	ONTAINER	G/P	1505 127			
S=Soil SE=Sediment			NO. OF CONTAINER(S)	ITAINER(S)	1				
r=rssue V=Vegetation W=Water			YOU	VOLUME	500mL				
WI=Wipe X=Other	SPECIAL H	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAME	SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					ALS
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A-6003-618 (REV 2)

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REMARKS PRESERVATION OFFSITE PROPERTY NO. 6 Months Sund of LADING/AIR FILL OF LADING/AIR	ICE CHEST	No. GR		FIELD LOGBOOI	KNO.	ACTUAL SAMPLE DEPTH	COA 303700	METHOD OF SHIPMENT FEDERAL EXPRESS		ا ay پــ
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** The 200 Area S&GRP Characterization and Monitoring Sampling and Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Nickel, Uranium, Zinc}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Analysis GKI applies to this SAF. TRVL-15-077 SPECIAL INSTRUCTIONS DATE/TIME 0 6 2015 DATE/TIME PATE/TIME RECEIVED BY/STORED IN CALL B 2015 1400 FEDEX DATE/TIME RECEIVED BY/STORED IN DATE/TIME OF RECEIVED BY STORED IN RECEIVED BY/STORED IN SIGN/ PRINT NAMES DATE/TIME

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*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per TYPE OF CONTAINER G/P Bon SPECIAL HANDLING AND/OR STORAGE SAMPLE ANALYSIS STEFFULL INSTRUCTIONS WATER NO. MATER SAMPLE DATE SAMPLE TIME *Contains Radioactive Matrix* SAMPLE DATE SAMPLE TIME **Contains Radioactive Months of MAY 0 6 2015 OSSSS AND PHINGS OF CONTAINER **Contains Radioactive Months of MAY 0 6 2015 OSSSS AND PHINGS OSS AND PHINGS OS	SHIPPED TO ALS Enviro	o nmental Ft. C	ollins	OFFSITE PROPE	RITY NO.			BILL OF LADING/AIR BILL	380
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May 19, 2015

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** The 200 Area S&GRP Characterization and Monitoring Sampling and Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Nickel, Uranium, Zinc}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; (1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Analysis GKI applies to this SAF. TRVL-15-077 SPECIAL INSTRUCTIONS 1-15 OF3 MAY 0 6 2015 DATE/TIME

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SAMPLE NO. MATRIX* SAMPLE DATE SAMPLE TIME				
B31C15 WATER WAY 0 8 2014 OS25	7			

** The 200 Area S&GRP Characterization and Monitoring Sampling and Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Manganese, Nickel, Uranium, Zinc}; 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium, Potassium, Sodium}; 6010_METALS_ICP: COMMON (Add-on) {Boron}; (1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Analysis GKI applies to this SAF. TRVL-15-077 SPECIAL INSTRUCTIONS MAY 0 6 2015 DATE/TIME 1-15 CR32 DATE/TIME

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A-6003-618 (REV 2)



ALS Environmental - Fort Collins CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPICC Workorder No: 15 05	111		
Project Manager: TE Initials: CDT	Date:	5-7-	.15
Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
Are custody seals on shipping containers intact?	NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	YES	NO
Is there a COC (Chain-of-Custody) present or other representative documents?		YES	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
9 Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		YES	NO
Were all samples placed in the proper containers for the requested analyses?		(YE)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: < green pea > green pea	N/A	YES	NO
15. Do any water samples contain sediment? Amount of sediment: dusting moderate heavy	N/A	YES	NO
16. Were the samples shipped on ice?	-	YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	YES	(NO)
Cooler #: Temperature (°C): No. of custody seals on cooler: Dot Survey/ Acceptance Information External μR/hr reading: Background μR/hr reading: Were external μR/hr readings ≤ two times background and within DOT acceptance criteria? YES NO / NA (If no, see Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EX		ND #16.	
If applicable, was the client contacted? YES / NO (NA) Contact: Project Manager Signature / Date:	_ Date/Tir	me:	

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Ship Date: 06MAY15 ActWgt: 24.0 LB CAD: 107066051/INET3610 From: (509) 373-7409 Origin ID: PSCA Barbara Briggs CH2M 6267 Latah St Delivery Address Bar Code Richland, WA 99354 J151215022303uv SHIP TO: (970) 490-1511 **BILL THIRD PARTY** Ref# GWS-485 (5614) Julie Ellingson Invoice # P0# ALS Global Dept# 225 Commerce Drive FORT COLLINS, CO 80524 THU - 07 MAY 10:30A PRIORITY OVERNIGHT 7735 4280 3381 TRK **DSR** 0201 80524 CO-UB XH FTCA DEN

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Metals Case Narrative

CH2M HILL Plateau Remediation Company

200W Pump & Treat – Treatment Plant Water Sampling -- F15-005

Work Order Number: 1505122

- 1. This report consists of 5 water samples.
- 2. The samples were received intact at ambient temperature by ALS on 05/07/15.
- 3. The samples had a pH less than 2 upon receipt.
- 4. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

For analysis by Trace ICP and ICP-MS, the samples were digested following method 3005A and the current revision of SOP 806.

5. Analysis by Trace ICP followed method 6010B and the current revision of SOP 834.

Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.

- 6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
- 7. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

- 8. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in this digestion batch.
 - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes. Boron and copper have results above the MDL. Sample results have been compared to the blank results.



- All laboratory control sample criteria were met.
- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples and high standard readbacks associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.
- 9. Matrix specific quality control procedures.

Sample 1505122-1 was designated as the quality control sample for each analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
- A serial dilution was analyzed with each ICP batch. All acceptance criteria were met.

10.	It is a standard practice that samples for ICP-MS are analyzed at a dilution.	The 10X factor
	can be considered an artifact of the prep and does not indicate a secondary	dilution and is
	therefore not flagged as a dilution.	

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

5/15/15 Date

Inorganics Primary Data Reviewer

5/15/15

Date



Inorganic Data Reporting Qualifiers

The following qualifiers are used as needed by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A "B" is entered if the reported value was obtained from a reading that was
 less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).
 If the analyte was analyzed for but not detected a "U" is entered. For samples, negative
 values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the
 negative value is above the MDL and below the reporting limit, then the result is "B" flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M Duplicate injection precision was not met.
 - N Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * Duplicate analysis (relative percent difference) not within control limits.
 - S SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.
 - C The analyte was detected in both the sample and the associated QC blank, and the sample concentration was <=5X the blank concentration.
 - Analyte was reported at a secondary dilution factor, typically DF>1 (i.e., the primary preparation required dilution to either bring the analyte within the calibration range or to minimize interference). Required for organics/wetchem if the sample was diluted.

Total Recoverable ICP Metals

Method SW6010B **Sample Results**

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31BY0 Lab ID: 1505122-1 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE

Basis: As Received

Analyst: Steve Workman Sample Aliquot: 50 ml

Final Volume: 50 ml Result Units: UG/L Clean DF:

File Name: 150513A.

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	33	30	6.8		
7440-70-2	CALCIUM	1	64000	1000	18		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	21000	750	22		
7440-09-7	POTASSIUM	1	5100	1000	190		
7440-23-5	SODIUM	1	17000	500	49		

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015

ALS Environmental -- FC

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Total Recoverable ICP Metals

Method SW6010B **Sample Results**

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31BY6 **Lab ID:** 1505122-2 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15 Prep Batch: IP150512-2

QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE Basis: As Received

Analyst: Steve Workman Sample Aliquot: 50 ml

Final Volume: 50 ml Result Units: UG/L Clean DF:

Prep Method: SW 3005 Rev A File Name: 150513A.

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	41	30	6.8		
7440-70-2	CALCIUM	1	59000	1000	18		
7439-89-6	IRON	1	25	50	16	В	
7439-95-4	MAGNESIUM	1	20000	750	22		
7440-09-7	POTASSIUM	1	5600	1000	190		
7440-23-5	SODIUM	1	17000	500	49		

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015

ALS Environmental -- FC

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Total Recoverable ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C01 Lab ID: 1505122-3 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150512-2

File Name: 150513A.

QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE Basis: As Received Analyst: Steve Workman
Sample Aliquot: 50 ml

Final Volume: 50 ml
Result Units: UG/L

Clean DF:

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	45	30	6.8		
7440-70-2	CALCIUM	1	62000	1000	18		
7439-89-6	IRON	1	25	50	16	В	
7439-95-4	MAGNESIUM	1	21000	750	22		
7440-09-7	POTASSIUM	1	4800	1000	190		
7440-23-5	SODIUM	1	17000	500	49		

Data Package ID: IT1505122-1

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Total Recoverable ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C06 Lab ID: 1505122-4 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Pate Analyzed: 13-May-15
Prep Method: SW 3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE

Basis: As Received File Name: 150513A. Analyst: Steve Workman

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	6.8	30	6.8	U	
7440-70-2	CALCIUM	1	67000	1000	18		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	21000	750	22		
7440-09-7	POTASSIUM	1	5400	1000	190		
7440-23-5	SODIUM	1	25000	500	49		

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015 ALS Environmental -- FC

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Total Recoverable ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C15 Lab ID: 1505122-5 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15
Date Extracted: 12-May-15
Date Analyzed: 13-May-15

Prep Method: SW3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE

Basis: As Received File Name: 150513A.

Analyst: Steve Workman
Sample Aliquot: 50 ml

Final Volume: 50 ml
Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	6.8	30	6.8	U	
7440-70-2	CALCIUM	1	66000	1000	18		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	22000	750	22		
7440-09-7	POTASSIUM	1	5600	1000	190		
7440-23-5	SODIUM	1	29000	500	49		

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015

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Total Recoverable ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31BY0 Lab ID: 1505122-1 Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Analysis ReqCode: 6020_METALS_I Prep Method: SW 3005 Rev A Prep Batch: IP150512-2

QCBatchID: IP150512-2-2 Run ID: IM150513-11A4

Cleanup: NONE Basis: As Received

File Name: 085SMPL_

Analyst: Brent A. Stanfield 50 ml

Sample Aliquot: **Final Volume:** 50 ml Result Units: UG/L

Clean DF:

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	24	10	0.74		
7440-48-4	COBALT	10	0.21	1	0.21	U	
7440-50-8	COPPER	10	2	8	2	U	
7439-96-5	MANGANESE	10	0.74	5	0.74	U	
7439-98-7	MOLYBDENUM	10	2.9	1	0.44		
7440-02-0	NICKEL	10	2.3	5	2.3	U	
7782-49-2	SELENIUM	10	3.2	1	0.42		
7440-61-1	URANIUM	10	1.2	0.1	0.046		
7440-66-6	ZINC	10	7.1	20	7.1	U	

Data Package ID: Im1505122-1

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Total Recoverable ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31BY6 **Lab ID:** 1505122-2

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-2 Run ID: IM150513-11A4 Cleanup: NONE

Basis: As Received File Name: 090SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	3.5	10	0.74	В	
7440-48-4	COBALT	10	14	1	0.21		
7440-50-8	COPPER	10	2	8	2	U	
7439-96-5	MANGANESE	10	100	5	0.74		
7439-98-7	MOLYBDENUM	10	29	1	0.44		
7440-02-0	NICKEL	10	6.9	5	2.3		
7782-49-2	SELENIUM	10	2.6	1	0.42		
7440-61-1	URANIUM	10	0.94	0.1	0.046		
7440-66-6	ZINC	10	8.9	20	7.1	В	

Data Package ID: Im1505122-1

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Total Recoverable ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C01 Lab ID: 1505122-3

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15
Date Extracted: 12-May-15

Date Analyzed: 13-May-15 Prep Method: SW3005 Rev A Prep Batch: IP150512-2

QCBatchID: IP150512-2-2 Run ID: IM150513-11A4 Cleanup: NONE

Basis: As Received File Name: 094SMPL_

Analyst: Brent A. Stanfield apple Aliquot: 50 ml

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	3.9	10	0.74	В	
7440-48-4	COBALT	10	36	1	0.21		
7440-50-8	COPPER	10	2	8	2	U	
7439-96-5	MANGANESE	10	300	5	0.74		
7439-98-7	MOLYBDENUM	10	29	1	0.44		
7440-02-0	NICKEL	10	14	5	2.3		
7782-49-2	SELENIUM	10	2	1	0.42		
7440-61-1	URANIUM	10	0.97	0.1	0.046		
7440-66-6	ZINC	10	8.2	20	7.1	В	

Data Package ID: Im1505122-1

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Total Recoverable ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C06 Lab ID: 1505122-4

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15 Date Extracted: 12-May-15 Date Analyzed: 13-May-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-2 Run ID: IM150513-11A4 Cleanup: NONE

Basis: As Received

File Name: 095SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml **Final Volume:** 50 ml Result Units: UG/L

Clean DF:

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	47	10	0.74		
7440-48-4	COBALT	10	0.21	1	0.21	U	
7440-50-8	COPPER	10	2	8	2	U	
7439-96-5	MANGANESE	10	0.74	5	0.74	U	
7439-98-7	MOLYBDENUM	10	3.7	1	0.44		
7440-02-0	NICKEL	10	2.3	5	2.3	U	
7782-49-2	SELENIUM	10	3.1	1	0.42		
7440-61-1	URANIUM	10	1.8	0.1	0.046		
7440-66-6	ZINC	10	7.1	20	7.1	U	

Data Package ID: Im1505122-1

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Total Recoverable ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Field ID: B31C15 Lab ID: 1505122-5

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER % Moisture: N/A

Date Collected: 06-May-15
Date Extracted: 12-May-15

Date Analyzed: 13-May-15 **Prep Method:** SW 3005 Rev A

Prep Batch: IP150512-2

QCBatchID: IP150512-2-2 Run ID: IM150513-11A4 Cleanup: NONE

Basis: As Received File Name: 096SMPL_

Analyst: Brent A. Stanfield aple Aliquot: 50 ml

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	37	10	0.74		
7440-48-4	COBALT	10	0.21	1	0.21	U	
7440-50-8	COPPER	10	2	8	2	U	
7439-96-5	MANGANESE	10	0.74	5	0.74	U	
7439-98-7	MOLYBDENUM	10	2.9	1	0.44		
7440-02-0	NICKEL	10	2.3	5	2.3	U	
7782-49-2	SELENIUM	10	2.6	1	0.42		
7440-61-1	URANIUM	10	1.9	0.1	0.046		
7440-66-6	ZINC	10	7.1	20	7.1	U	

Data Package ID: Im1505122-1

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ICP Metals

Method SW6010B Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: FP150512-2MB

Sample Matrix: WATERPrep Batch: IP150512-2% Moisture: N/AQCBatchID: IP150512-2-5Date Collected: N/ARun ID: IT150513-1A5

Date Extracted: 12-May-15Cleanup: NONEDate Analyzed: 13-May-15Basis: N/A

File Name: 150513A.

Sample Aliquot:

Final Volume:

Result Units: UG/L

Clean DF:

50 ml

50 ml

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	-16	30	6.8	В	
7440-70-2	CALCIUM	1	18	1000	18	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	22	750	22	U	
7440-09-7	POTASSIUM	1	190	1000	190	U	
7440-23-5	SODIUM	1	49	500	49	U	

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015

ICP Metals

Method SW6010B Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: FP150512-2LCS

Sample Matrix: WATER Prep Batch: IP150512-2
% Moisture: N/A QCBatchID: IP150512-2-5
Date Collected: N/A Run ID: IT150513-1A5
Date Extracted: 05/12/2015 Cleanup: NONE

Date Analyzed: 05/13/2015 Basis: N/A
Prep Method: SW3005A File Name: 150513A.

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-42-8	BORON	1000	1140	30		114	80 - 120%
7440-70-2	CALCIUM	40000	41300	1000		103	80 - 120%
7439-89-6	IRON	1000	1010	50		101	80 - 120%
7439-95-4	MAGNESIUM	40000	40700	750		102	80 - 120%
7440-09-7	POTASSIUM	40000	41300	1000		103	80 - 120%
7440-23-5	SODIUM	40000	41500	500		104	80 - 120%

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015 ALS Environmental -- FC

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Sample Aliquot:

Final Volume:

Result Units: UG/L

Clean DF:

50 ml

50 ml

ICP Metals

Method SW6010B Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B31BY0 LabID: 1505122-1MS

Sample Matrix: WATER **Prep Batch:** IP150512-2 % Moisture: N/A QCBatchID: IP150512-2-5 Date Collected: 06-May-15 Run ID: IT150513-1A5 Date Extracted: 12-May-15 Cleanup: NONE Date Analyzed: 13-May-15 Basis: As Received

Prep Method: SW 3005 Rev A

Sample Aliquot: 50 ml **Final Volume:** 50 ml Result Units: UG/L File Name: 150513A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-42-8	BORON	33		1150		30	1000	111	80 - 120%
7440-70-2	CALCIUM	64000		102000		1000	40000	96	80 - 120%
7439-89-6	IRON	16	U	960		50	1000	96	80 - 120%
7439-95-4	MAGNESIUM	21000		60500		750	40000	97	80 - 120%
7440-09-7	POTASSIUM	5100		48500		1000	40000	109	80 - 120%
7440-23-5	SODIUM	17000		62000		500	40000	112	80 - 120%

Field ID: B31BY0 LabID: 1505122-1MSD

BORON

CALCIUM

MAGNESIUM

POTASSIUM

SODIUM

IRON

Target Analyte

CASNO

7440-42-8

7440-70-2

7439-89-6

7439-95-4

7440-09-7

7440-23-5

Sample Matrix: WATER % Moisture: N/A Date Collected: 06-May-15 Date Extracted: 12-May-15

Date Analyzed: 13-May-15 Prep Method: SW 3005 Rev A

MSD

Result

1170

982

61600

48600

62200

106000

MSD

Prep Batch: IP150512-2 QCBatchID: IP150512-2-5 Run ID: IT150513-1A5 Cleanup: NONE

109

113

Basis: As Received

Final Volume: 50 ml Result Units: UG/L File Name: 150513A.

Sample Aliquot:

50 ml

Spike MSD % Reporting **RPD RPD** Added Rec. Limit Limit Qual 1000 114 30 20 2 40000 106 1000 20 4 1000 98 20 2 50 40000 20 100 750 2

1000

500

20

20

Data Package ID: IT1505122-1

Date Printed: Friday, May 15, 2015

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40000

40000

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ICPMS Metals

Method SW6020A Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: FP150512-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A

Date Extracted: 12-May-15
Date Analyzed: 13-May-15

 Prep Batch:
 IP150512-2
 Sample Aliquot:
 50 ml

 QCBatchID:
 IP150512-2-2
 Final Volume:
 50 ml

 Run ID:
 IM150513-11A4
 Result Units:
 UG/L

 Cleanup:
 NONE
 Clean DF:
 1

Basis: N/A File Name: 082SMPL_

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	19	50	19	U	
7440-47-3	CHROMIUM	10	0.74	10	0.74	U	
7440-48-4	COBALT	10	0.21	1	0.21	U	
7440-50-8	COPPER	10	-4.6	8	2	В	
7439-96-5	MANGANESE	10	0.74	5	0.74	U	
7439-98-7	MOLYBDENUM	10	0.44	1	0.44	U	
7440-02-0	NICKEL	10	2.3	5	2.3	U	
7782-49-2	SELENIUM	10	0.42	1	0.42	U	
7440-61-1	URANIUM	10	0.046	0.1	0.046	U	
7440-66-6	ZINC	10	7.1	20	7.1	U	

Data Package ID: Im1505122-1

Date Printed: Friday, May 15, 2015

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ICPMS Metals

Method SW6020A Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-005

Lab ID: FM150512-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A

Date Extracted: 05/12/2015 Date Analyzed: 05/13/2015 Prep Method: SW3005A Prep Batch: IP150512-2 QCBatchID: IP150512-2-2

> Run ID: IM150513-11A4 Cleanup: NONE Basis: N/A

File Name: 084SMPL_

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	5000	4740	50		95	80 - 120%
7440-47-3	CHROMIUM	500	476	10		95	80 - 120%
7440-48-4	COBALT	100	97.5	1		98	80 - 120%
7440-50-8	COPPER	1000	968	8		97	80 - 120%
7439-96-5	MANGANESE	100	96.5	5		97	80 - 120%
7439-98-7	MOLYBDENUM	100	94.9	1		95	80 - 120%
7440-02-0	NICKEL	500	496	5		99	80 - 120%
7782-49-2	SELENIUM	100	95.8	1		96	80 - 120%
7440-61-1	URANIUM	10	9.79	0.1		98	80 - 120%
7440-66-6	ZINC	2000	1940	20		97	80 - 120%

Data Package ID: Im1505122-1

Date Printed: Friday, May 15, 2015 ALS Environmental -- FC

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ICPMS Metals

Method SW6020A Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B31BY0
LabID: 1505122-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 06-May-15
Date Extracted: 12-May-15

Date Analyzed: 13-May-15 Prep Method: SW 3005 Rev A
 Prep Batch:
 IP150512-2
 Sam

 QCBatchID:
 IP150512-2-2
 Fi

 Run ID:
 IM150513-11A4
 F

Cleanup: NONE Basis: As Received Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L File Name: 088SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	19	U	5060		50	5000	101	75 - 125%
7440-47-3	CHROMIUM	24		500		10	500	95	75 - 125%
7440-48-4	COBALT	0.21	U	98.3		1	100	98	75 - 125%
7440-50-8	COPPER	2	U	969		8	1000	97	75 - 125%
7439-96-5	MANGANESE	0.74	U	99.1		5	100	99	75 - 125%
7439-98-7	MOLYBDENUM	2.9		100		1	100	97	75 - 125%
7440-02-0	NICKEL	2.3	U	491		5	500	98	75 - 125%
7782-49-2	SELENIUM	3.2		99.2		1	100	96	75 - 125%
7440-61-1	URANIUM	1.2		11.3		0.1	10	102	75 - 125%
7440-66-6	ZINC	7.1	U	1980		20	2000	99	75 - 125%

Data Package ID: Im1505122-1

Date Printed: Friday, May 15, 2015 ALS Environmental -- FC

LIMS Version: 6.761

ICPMS Metals

Method SW6020A Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1505122

Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - Treatment Plant Water Sampling F15-

Field ID: B31BY0
LabID: 1505122-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 06-May-15
Date Extracted: 12-May-15

Date Analyzed: 13-May-15 Prep Method: SW 3005 Rev A Prep Batch: IP150512-2 QCBatchID: IP150512-2-2 Run ID: IM150513-11A4

> Cleanup: NONE Basis: As Received

Sample Aliquot: 50 ml Final Volume: 50 ml

Result Units: UG/L File Name: 089SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	4730		5000	95	50	20	7
7440-47-3	CHROMIUM	497		500	95	10	20	1
7440-48-4	COBALT	96.6		100	97	1	20	2
7440-50-8	COPPER	940		1000	94	8	20	3
7439-96-5	MANGANESE	97		100	97	5	20	2
7439-98-7	MOLYBDENUM	99.1		100	96	1	20	1
7440-02-0	NICKEL	486		500	97	5	20	1
7782-49-2	SELENIUM	101		100	98	1	20	2
7440-61-1	URANIUM	10.8		10	96	0.1	20	5
7440-66-6	ZINC	1920		2000	96	20	20	3

Data Package ID: lm1505122-1

Date Printed: Friday, May 15, 2015 ALS Environmental -- FC

LIMS Version: 6.761

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